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## NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 01/12/2009  
SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, NW  
Washington, DC 20037-3213

EXAMINER	
PEACHEES, RANDY	
ART UNIT	PAPER NUMBER

2617  
DATE MAILED: 01/12/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/986,698 11/09/2001

Junbiao Zhang

A8182

5838

TITLE OF INVENTION: METHOD AND SYSTEM FOR EXTENDING THE CAPABILITIES OF HANDHELD DEVICES USING LOCAL RESOURCES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/13/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

### HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail**

**Mail Stop ISSUE FEE  
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P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

7590

01/12/2009

**SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, NW  
Washington, DC 20037-3213**

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE-FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/13/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
PEACHES, RANDY	2617	455-403000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/147; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

1

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.111. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER

PEACHEES, RANDY

ART UNIT

PAPER NUMBER

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## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 620 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 620 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

09/986,698

**Applicant(s)**

ZHANG, JUNBIAO

**Examiner**

RANDY PEACHES

**Art Unit**

2617

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERIT IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's arguments dated 10/22/2008.
2. ☒ The allowed claim(s) is/are claims 3-6, 8, 10-12, 14-23 and 25-32 re-numbered claims 1-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## DETAILED ACTION

### REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The Applicant's invention relates to the following:

Regarding **claim 4**, the Applicant claims a method for extending a capability of a handheld device capable of independent operation, the method comprising:

- detecting a helper device that provides a resource;
- requesting access to the resource from the helper device;
- transferring data to the helper device from the handheld device, if the helper device grants access to the resource;
- using the resource to process the data transferred from the handheld device at the helper device;
- sending an interface description from the helper device to the handheld device;
- using the interface description to construct and display a control interface at the handheld device;
- transferring a user interaction with the control interface from the handheld device to the helper device, and
- interpreting the user interaction based on the resource;
  - wherein the resource is not adequately provided by the independent operation of the handheld device
  - wherein if the helper device denies access to the resource, detecting another helper device that provides the resource

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- wherein the handheld device operates the helper device based on the user interaction, and
- wherein adding a new resource or modifying an existing resource does not require modifying the handheld device.

Regarding **claim 6**, the Applicant claims a method for extending a capability of a handheld device capable of independent operation, the method comprising:

- detecting a plurality of helper devices, each helper device providing at least one resource and controlling access to the resource;
- determining the helper devices that provide a first resource needed to extend the capability of the handheld device;
- issuing a request for access to the first resource to each of the helper devices providing the first resource, each of the helper devices providing the first resource queuing the request if the first resource is temporarily unavailable, wherein when the first resource becomes available to a first helper device having queued the request, the first helper device grants the handheld device access to the first resource and any requests for the first resource queued in the other helper devices are ignored;
- transferring data to the first helper device from the handheld device, if the first helper device grants access to the first resource;
- using the first resource to process the data transferred from the handheld device at the first helper device;
- sending an interface description from the first helper device to the handheld device;

- constructing and displaying a control interface from the interface description at the handheld device;
- processing a user interaction with the control interface at the handheld device, and
- operating the first helper device based on the user interaction,
  - wherein the first resource is not adequately provided by the independent operation of the handheld device,

Regarding **claim 11**, the Applicant claims a system for extending a capability of a mobile device, the system comprising:

- a handheld device capable of independent operation; and
- a plurality of helper devices, each helper device providing an extension service and controlling access to the at least one extension service;
- wherein the handheld device communicates with each of the helper devices to determine if any of the helper devices is capable of providing a selected extension service to the handheld device;
- wherein the handheld device issues a request for the selected extension service to each of the helper devices providing the selected extension service, and each of the helper devices providing the selected extension service queue the request if the selected extension service is temporarily unavailable;
- wherein when the selected extension service becomes available to a first helper device having queued the request, the first helper device grants the handheld device access to the selected extension service, and all other

queued requests for the selected extension service, in other helper devices, are ignored;

- wherein if each of the helper devices providing the selected extension service denies the handheld device access to the selected extension service, the handheld device terminates communication with each of the helper devices providing the selected extension service;
- wherein the handheld device transfers data to the first helper device, if the first helper device grants access to the selected extension service;
- wherein the first helper device uses the selected extension service to process the data transferred from the handheld device to the first helper device ;
- wherein the first helper device sends an interface description to the handheld device;
- wherein the handheld device constructs and displays a control interface using the interface description;
- wherein the handheld device transfers a user interaction with the control interface to the first helper device,
- wherein the first helper device interprets the user interaction based on the selected extension service;
- wherein the handheld device operates the first helper device based on the user interaction and wherein the selected extension service is not adequately provided by the independent operation of the handheld device, and



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- wherein a new extension service can be added or an existing extension service can be modified without modifying the handheld device wherein if a communication between the handheld device and the first helper device is broken before the handheld device has completed use of the selected extension service, another helper device providing the selected extension service is detected.

Regarding **claim 22**, the Applicant claims a system for extending a capability of a handheld device capable of independent operation, the system comprising:

- first means in the handheld device for accessing a resource of a local device;
- second means in the local device for controlling access to the resource;
- and
- third means in at least one of the handheld device and the local device for communicating between the first means and the second means;
- wherein the first means uses the third means to determine if the second means is capable of providing the resource to the first means;
- wherein the first means uses the third means to issue a request for the resource from the second means, the second means queuing the request if the resource is temporarily unavailable;
- wherein if the resource becomes available to the second means, the second means grants the first means access to the resource, and any other queued requests for the resource issued by the first means to other local devices are ignored;

- wherein the first means uses the third means to transfer data to the second means, if the second means grants the first means access to the resource;
- wherein the second means uses the resource to process the data;
- wherein the second means uses the third means to send an interface description to the first means;
- wherein the first means constructs and displays a control interface using the interface description;
- wherein the first means uses the third means to transfer a user interaction with the control interface to the second means;
- wherein the second means interprets the user interaction based on the resource;
- wherein the first means uses the third means to operate the second means based on the user interaction; and
- wherein the resource is not adequately provided by the independent operation of the first means
- wherein if access to the resource is denied another device that provides the access is detected.

The closest prior art relevant to the claimed invention cited by the Examiner is Ereksen (U.S. Patent Number 6,622,018 B1).

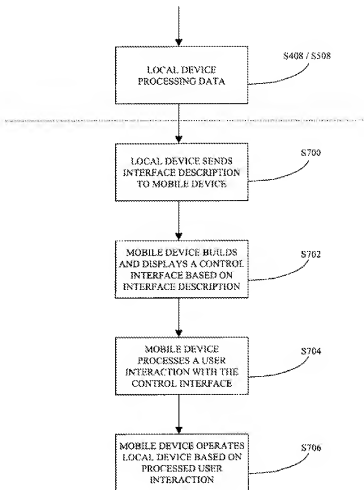
Ereksen discloses a system for controlling a remote device over a wireless connection which uses a transceiver to control compliant devices. The compliant devices that can be controlled are displayed on a portable computer system

(100). The portable computer system (100) is capable of discovering/locating compliant devices within an area, whereby command information is sent via the said portable device for controlling the said remote device based on its capabilities. The user is capable of selecting different commands from the display element (105) of which a menu is displayed detailing the commands capable of controlling a particular remote device.

Although Erikson is considered to constitute to the state of the claimed invention; however, in contrast with comparable differences, the instant Application is considered novel over the prior art because the instant application claims two important factors:

- *sending an interface description from the first helper device to the handheld device;*
- *constructing and displaying a control interface from the interface description at the handheld device;*

The instant application discloses a method whereby a handheld devices does not need to maintain a unique remote control interface for each helper/controlled device that is discovered within an area. The said helper device maintain the unique interfaces, which are transmitted to the handheld device. The handheld device receives the interface information and constructs an application specific interface based on the interface description supplied by the helper devices.



Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RANDY PEACHES whose telephone number is (571) 272-7914. The examiner can normally be reached on Monday - Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Randy Peaches/

Examiner, Art Unit 2617

/NICK CORSARO/

Supervisory Patent Examiner, Art Unit 2617